

Claim Listing

Please amend claims 1, 7, 9-10, 19-21, 23-28, 34, 36-37, 46-55, and 64. Please add claims 67-70. The following listing of claims, if entered, replaces all previous versions of the claims.

1. (Currently Amended) A method for maintaining a common session identifier in a network, comprising:

associating a session identifier with a user, wherein

the session identifier is associated with the user by a network access server;

providing [[a]] the session identifier to an off-load server, wherein

the off-load server is configured to establish a network connection between

communication equipment operated by the user and a server operated by a network service provider.

2. (Original) The method recited in Claim 1, wherein:

providing the session identifier further comprises providing the session identifier as a non-required parameter in accordance with a tunnel protocol.

3. (Original) The method recited in Claim 1, wherein:

providing the session identifier further comprises providing the session identifier in a session setup request.

4. (Original) The method recited in Claim 1, further comprising:

determining whether the session identifier is provided as a non-required parameter in accordance with a tunnel protocol.

5. (Original) The method recited in Claim 4, further comprising:

assigning, if the session identifier is not provided, a session identifier.

6. (Original) The method recited in Claim 1, further comprising:

associating a start record with the session identifier.

7. (Currently Amended) The method recited in Claim 6, further comprising:
providing the start record to an AAA ~~a software module that provides for performing~~
~~accounting processing.~~
8. (Original) The method recited in Claim 1, further comprising:
associating a stop record with the session identifier.
9. (Original) The method recited in Claim 8, further comprising:
providing the stop record to an AAA ~~a software module that provides for performing~~
~~accounting processing.~~
10. (Currently Amended) A method for maintaining a common session identifier in a
network, comprising:
determining whether a ~~the~~ session identifier value is provided by an access server to an
offload server, wherein
the access server is configured to perform pre-authentication processing for a
user, and
the off-load server is configured to establish a network connection between
communication equipment operated by the user and a server operated by a
network service provider; and
assigning, if the session identifier value is not provided by the access server, the session
identifier value.
11. (Original) The method recited in Claim 10, further comprising:
inspecting a parameter list for the session identifier value.
12. (Original) The method recited in Claim 10, wherein:
determining whether the session identifier value is provided by the access server further
comprises determining whether the session identifier value is contained within a
non-required parameter string provided by the access server.

13. (Original) The method recited in Claim 10, further comprising:
associating a start record with the session identifier.
14. (Original) The method recited in Claim 13, further comprising:
providing the start record to a software module that provides for performing accounting
processing.
15. (Original) The method recited in Claim 10, further comprising:
associating a stop record with the session identifier.
16. (Original) The method recited in Claim 15, further comprising:
providing the stop record to a software module that provides for performing accounting
processing.
17. (Previously Presented) The method recited in Claim 10, further comprising:
providing the session identifier from the access server to the off-load server.
18. (Original) The method recited in Claim 17, wherein:
providing the session identifier further comprises providing the session identifier as a
non-required parameter in accordance with a tunnel protocol.
19. (Currently Amended) A system, comprising:
a network access server, wherein the network access server is configured to generate a
session identifier, the network access server being further configured to provide
the session identifier to an off-load server that is configured to establish a network
connection between communication equipment operated by a user and a server
operated by a network service provider, and both the network access server and
the off-load server are configured to send the session identifier to an AAA
module.
20. (Currently Amended) The system recited in Claim 19, further comprising:

an the off-load server, the off-load server being coupled to receive the session identifier from the network access server.

21. (Currently Amended) The system recited in Claim 19, further comprising:

~~a software~~ the AAA module that is configured to perform authentication, the ~~software~~ module being further configured to receive the session identifier from the network access server.

22. (Previously Presented) The system recited in Claim 19, wherein:

the network access server is further configured to provide the session identifier in a non-required parameter list according to a tunnel protocol.

23. (Currently Amended) A system, comprising:

an off-load server, wherein the off-load server is configured to receive a session identifier from a network access server, the off-load server is configured to establish a network connection between communication equipment operated by the user and a server operated by a network service provider, and both the network access server and the off-load server are configured to send the session identifier to an AAA module.

24. (Currently Amended) The system recited in Claim 23, further comprising:

~~a software~~ the AAA module ~~that is configured to perform authentication~~, the ~~software~~ AAA module being further configured to receive the session identifier from the network access server.

25. (Currently Amended) The system recited in Claim 23, wherein:

the off-load server is further configured to receive the session identifier from [[a]] the network access server in a non-required parameter list according to a tunnel protocol.

26. (Currently Amended) The system recited in Claim 23, wherein:

the off-load server is further configured to generate a start record, the off-load server
being further configured to associate the start record with the session identifier;
and
the off-load server is further configured to provide the start record to the AAA ~~a software~~
module ~~that provides for performing accounting processing~~.

27. (Currently Amended) The system recited in Claim 23, wherein:
the off-load server is further configured to generate a stop record, the off-load server
being further configured to associate the stop record with the session identifier;
and
the off-load server is further configured to provide the stop record to ~~a software~~ the AAA
module ~~that provides for performing accounting processing~~.

28. (Currently Amended) An apparatus, comprising:
means for associating a session identifier with a user, in response to a network access
server detecting that communication equipment operated by the user is attempting
to connect to a server operated by a network service provider; and
means for providing [[a]] the session identifier from an access server to an off-load
server, wherein
the off-load server is configured to establish a network connection between the
communication equipment operated by the user and the server operated by
the network service provider.

29. (Original) The apparatus recited in Claim 28, wherein:
means for providing a session identifier further comprises means for providing the
session identifier as a non-required parameter in accordance with a tunnel
protocol.

30. (Original) The apparatus recited in Claim 28, wherein:
means for providing a session identifier further comprises means for providing the
session identifier in a session setup request.

31. (Original) The apparatus recited in Claim 28, further comprising:
means for determining whether the session identifier is provided as a non-required
parameter in accordance with a tunnel protocol.
32. (Original) The apparatus recited in Claim 28, further comprising:
means for assigning, if the session identifier is not provided, a session identifier.
33. (Original) The apparatus recited in Claim 28, further comprising:
means for associating a start record with the session identifier.
34. (Currently Amended) The apparatus recited in Claim 33, further comprising:
means for providing the start record to ~~a software~~ an AAA module ~~that provides for~~
~~performing accounting processing~~.
35. (Original) The apparatus recited in Claim 28, further comprising:
means for associating a stop record with the session identifier.
36. (Currently Amended) The apparatus recited in Claim 35, further comprising:
means for providing the stop record to ~~a software~~ an AAA module ~~that provides for~~
~~performing accounting processing~~.
37. (Currently Amended) An apparatus, comprising:
means for determining whether a session identifier value is provided by an access server
to an off-load server, wherein
the access server is configured to perform pre-authentication processing for a
user, and
the off-load server is configured to establish a network connection between
communication equipment operated by the user and a server operated by a
network service provider; and
means for assigning, if the session identifier value is not provided by the access server,
the session identifier value.

38. (Original) The apparatus recited in Claim 37, further comprising:
means for inspecting a parameter list for the session identifier value.
39. (Original) The apparatus recited in Claim 37, wherein:
means for determining whether the session identifier value is provided by the access
server further comprises means for determining whether the session identifier
value is contained within a non-required parameter list provided by the access
server.
40. (Original) The apparatus recited in Claim 37, further comprising:
means for associating a start record with the session identifier.
41. (Original) The apparatus recited in Claim 40, further comprising:
means for providing the start record to a software module that provides for performing
accounting processing.
42. (Original) The apparatus recited in Claim 37, further comprising:
means for associating a stop record with the session identifier.
43. (Original) The apparatus recited in Claim 42, further comprising:
means for providing the stop record to a software module that provides for performing
accounting processing.
44. (Previously Presented) The apparatus recited in Claim 37, further comprising:
means for providing the session identifier from the access server to the off-load server.
45. (Original) The apparatus recited in Claim 44, further comprising:
means for providing the session identifier further comprising providing the session
identifier as a non-required parameter in accordance with a tunnel protocol.
46. (Currently Amended) A computer program product, encoded in computer readable
media, comprising:

a first set of instructions, executable on a computer system, configured to assign a session identifier to a user, in response to a network access server detecting that communication equipment operated by the user is attempting to connect to a server operated by a network service provider; and
a second set of instructions, executable on the computer system, configured to provide [[a]] the session identifier to an off-load server, wherein
the off-load server is configured to establish a network connection between the communication equipment operated by the user and the server operated by the network service provider.

47. (Currently Amended) The computer program product of claim 46, encoded in computer readable media, wherein:

the ~~first~~ second set of instructions, executable on the computer system, is further configured to provide the session identifier as a non-required parameter in accordance with a tunnel protocol.

48. (Currently Amended) The computer program product of claim 46, encoded in computer readable media, wherein:

the second ~~first~~ set of instructions, executable on the computer system, is further configured to provide the session identifier in a session setup request.

49. (Currently Amended) The computer program product of claim 46, encoded in computer readable media, further comprising:

a ~~second~~ third set of instructions, executable on the computer system, configured to determine whether the session identifier is provided as a non-required parameter in accordance with a tunnel protocol.

50. (Currently Amended) The computer program product of claim 49, encoded in computer readable media, further comprising:

a ~~third~~ fourth set of instructions, executable on the computer system, configured to assign, if the session identifier is not provided, a session identifier.

51. (Currently Amended) The computer program product of claim 46, encoded in computer readable media, further comprising:

a ~~second~~ third set of instructions, executable on the computer system, configured to associate a start record with the session identifier.

52. (Currently Amended) The computer program product of claim 51, encoded in computer readable media, further comprising:

a ~~third~~ fourth set of instructions, executable on the computer system, configured to provide the start record to a software an AAA module ~~that provides for performing accounting processing.~~

53. (Currently Amended) The computer program product of claim 46, encoded in computer readable media, further comprising:

a ~~second~~ third set of instructions, executable on the computer system, configured to associate a stop record with the session identifier.

54. (Currently Amended) The computer program product of claim 53, encoded in computer readable media, further comprising:

a ~~third~~ fourth set of instructions, executable on the computer system, configured to provide the stop record to a software an AAA module ~~that provides for performing accounting processing.~~

55. (Currently Amended) A computer program product, encoded in computer readable media, comprising:

a first set of instructions, executable on a computer system, configured to determine whether the session identifier value is provided by an access server to an off-load server, wherein
the access server is configured to perform pre-authentication processing for a
user, and
the off-load server is configured to establish a network connection between
communication equipment operated by the user and a server operated by a
network service provider; and

a second set of instructions, executable on a computer system, configured to assign, if the session identifier value is not provided by the access server, the session identifier value.

56. (Original) The computer program product of claim 55, encoded in computer readable media, further comprising:

a third set of instructions, executable on a computer system, configured to inspect a parameter list for the session identifier value.

57. (Original) The computer program product of claim 55, encoded in computer readable media, wherein:

the first set of instructions, executable on a computer system, is further configured to determine whether the session identifier value is contained within a non-required parameter string provided by the access server.

58. (Original) The computer program product of claim 55, encoded in computer readable media, further comprising:

a third set of instructions, executable on a computer system, configured to associate a start record with the session identifier.

59. (Original) The computer program product of claim 58, encoded in computer readable media, further comprising:

a fourth set of instructions, executable on a computer system, configured to provide the start record to a software module that provides for performing accounting processing.

60. (Original) The computer program product of claim 55, encoded in computer readable media, further comprising:

a third set of instructions, executable on a computer system, configured to associate a stop record with the session identifier.

61. (Original) The computer program product of claim 60, encoded in computer readable media, further comprising:

a fourth set of instructions, executable on a computer system, configured to provide the stop record to a software module that provides for performing accounting processing.

62. (Previously Presented) The computer program product of claim 55, encoded in computer readable media, further comprising:

a third set of instructions, executable on a computer system, configured to provide the session identifier from the access server to the off-load server.

63. (Original) The computer program product of claim 62, encoded in computer readable media, wherein:

the third set of instructions, executable on a computer system, is further configured to provide the session identifier as a non-required parameter in accordance with a tunnel protocol.

64. (Currently Amended) The method of claim 1, wherein

the off-load server provides one of Point-to-Point Protocol (PPP), Serial Line Internet Protocol (SLIP), Multipoint Point-to-Point Protocol, and PPP over Ethernet (PPPoE) service to the ~~network access server~~ network access server.

65. (Previously Presented) The method of claim 64, further comprising:

assigning the session identifier to a call, prior to providing the session identifier to the off-load server, and

sending an access request to an Authentication, Authorization, and Accounting (AAA) server, wherein

the access request comprises the session identifier and a Dialed Number Identification Service (DNIS) number associated with the call, and the assigning, the providing, and the sending are performed by a network access server.

66. (Previously Presented) The method of claim 65, further comprising:
sending a second access request from the off-load server to the AAA server, wherein
the second access request comprises the session identifier and a username
associated with the call.
67. (New) The method of claim 1, further comprising:
both the network access server and the off-load server sending the session identifier to an
Authentication, Authorization, and Accounting (AAA) module.
68. (New) A method comprising:
assigning a session identifier to a call detected by a network access server; and
providing the session identifier from the network access server to an off-load server,
wherein the off-load server provides one of Point-to-Point Protocol (PPP), Serial
Line Internet Protocol (SLIP), Multipoint Point-to-Point Protocol, and PPP over
Ethernet (PPPoE) service to the network access server.
69. (New) The method of claim 68, further comprising:
sending an access request to an Authentication, Authorization, and Accounting (AAA)
server, wherein
the access request comprises the session identifier and a Dialed Number
Identification Service (DNIS) number associated with the call, and
the assigning, the providing, and the sending are performed by the network access
server.
70. (New) The method of claim 69, further comprising:
sending a second access request from the off-load server to the AAA server, wherein
the second access request comprises the session identifier and a username
associated with the call.